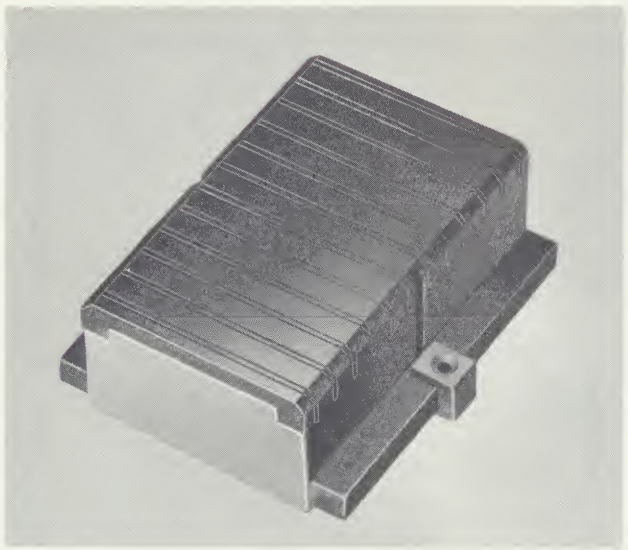
FERROXCUBE
CORPORATION OF AMERICA
SAUGERTIES, NEW YORK

STANDARD FLYING DRUM RECORDING HEAD
8 and 12 Tracks

Bulletin 1005



Standard FERROXCUBE Flying Drum Recording Head, 12 Tracks.

Flying Drum Recording Heads offer drum memory performance unobtainable with standard fixed heads. These heads actually fly above the surface of the drum through precise aerodynamic principles. Effects of drum runout, such as output signal amplitude fluctuations are minimized. In addition, closer drum-to-head heights are possible, providing superior electrical performance.

The use of high density high permeability ferrite cores, fabricated with a patented molten glass bonding process, makes this exceptional performance possible.

In addition to this standard line, we also invite inquiries on custom designed heads for specific flying, contact, and video applications.

ELECTRICAL CHARACTERISTICS

	8 Track Head	12 Track Head
Inductance:	130 μH	15 μH
Number of Turns:	62	30
Resonant Frequency:	5 Mc/s, min.	5 Mc/s, min.
Write Current:	100 ma p-p	150 ma p-p
	140 ma p-p	—
Output Voltage at 100 Kc/s:	180 mv ($I_W = 100$ ma)	18 mv
	200 mv ($I_W = 140$ ma)	—
Output Voltage Loss: at 400 Kc/s:	$\leq$10%	$\leq$15%
Adjacent Channel Crosstalk:	$\leq$40 db	$\leq$40 db

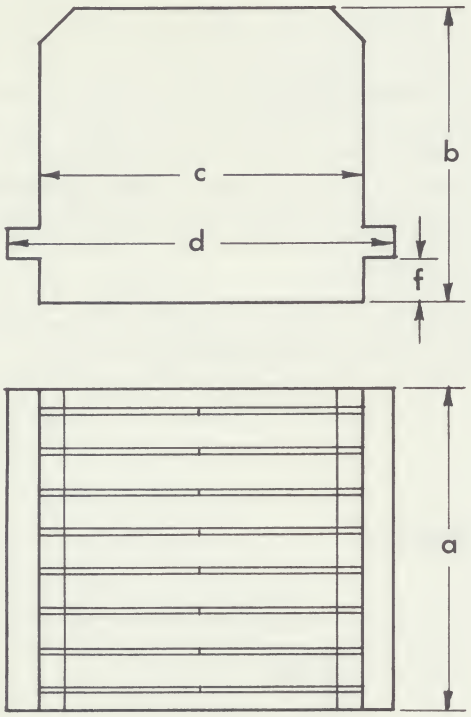
MECHANICAL SPECIFICATIONS

Track Width:	.028″	.0142″
Track Spacing:	.083″ center-to-center	.087″ center-to-center

NOTE–The above characteristics and specifications have been determined on iron oxide coated drums with the following parameters:

Diameter:	9.45″	15.8″
R.P.M.:	4500	1800
Spring Pressure:	250 grams	420 grams
Coating Thickness:	630 micro inches	355 micro inches

PHYSICAL DIMENSIONS



Dim.	8 Track	12 Track
a	.740″	1.031″
b	.678″	.429″
c	.740″	.669″
d	.898″	.945″
f	.102″	0

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FERROXCUBE
CORPORATION OF AMERICA
SAUGERTIES, NEW YORK

STANDARD FLYING DRUM HEAD 9 TRACK

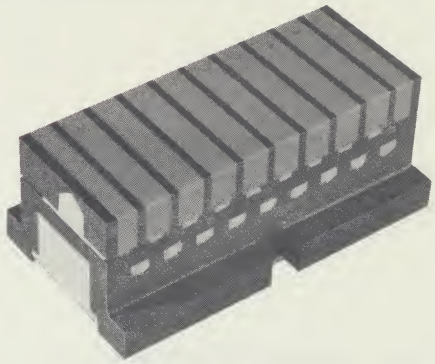
Bulletin 1006

The first completely glass bonded ferrite magnetic recording head is offered by Ferroxcube . . . a standard nine-track drum head. The proprietary glass bonding technique, utilized for both gap construction and multi-track assembly, culminates years of development experience.

FEATURES AND APPLICATIONS

To meet the high packing requirements of multi-track recording, the Ferroxcube Corporation offers a new high density nine-track flying drum recording head . . . a head featuring excellent static and dynamic characteristics.

A new high frequency Ferroxcube ferrite material 4R5 – combines high permeability, low losses, and high density (typically less than –1% porosity) This high density provides each head with an almost void-free surface with a finish better than 2 microinches. Furthermore, excellent gap definition is assured. Each Ferroxcube recording head is completely homogeneous and dimensionally stable because the "flying" surface is all glass and ceramic. Typical flatness is 10 to 30 microinches. The ceramic ferrite and glass are selected for matched temperature coefficients of expansion.



All-glass bonded 9-track standard Ferroxcube Read-Write Recording Head employs new Ferroxcube 4R5 high-density, high-permeability, high-frequency magnetic material.

In addition to these features, Ferroxcube glass bonded recording heads enable the manufacture of gap lengths as small as 30 microinches with less than 100 microinches of gap scatter. Because Ferroxcube is uniquely equipped to deliver both production and prototype recording head assemblies to almost any individual requirement, Ferroxcube wants the opportunity to help solve your recording head problems.

TYPICAL SPECIFICATIONS
STANDARD FLYING DRUM RECORDING HEAD ASSEMBLY

STATIC

Number of Tracks:	Nine
Gap Length:	200 microinches ±10%
Track Width:	.020″ ±.001
Center-to-Center Track Spacing:	0.100″
Center-tap L:	21 μh ±10%
Total L:	84 μh ±10%
Gap Scatter:	Less than 100 microinches
Over-all Size:	1.000″ x 0.400″ x 0.375″

DYNAMIC

Flies at height of approximately 120 microinches from 18″ diameter drum at 1240 ips.

Using an oxide-coated drum of above specifications and 115 ma peak "write" current, an average readback of 27 and 21 millivolts, peak-to-peak, was obtained at 750 and 1500 flux-reversals per inch, respectively.